

# KYOKUSHIN MANAGEMENT SYSTEM



## KMS ADMINISTRATOR'S GUIDE

VERSION 3.2.8

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# 1. INTRODUCTION

The intended audience for the Jade Sports Management system (KMS) Administrator Guide are the users who maintain the integrity of the KMS system in one or more locations. It is assumed in this manual that the operator is familiar with all KMS aspects, as documented in the KMS User's Guide.

Stand alone KMS Client Systems for a single Dojo will need little or no configuration changes after downloading and installing the KMS Client System.

When the KMS Client System is used to create a "Branch System" the operator should carefully read the Advanced System Configuration chapter.



## 2. KMS SYSTEM INSTALLATION

After downloading the latest version of KMS from the [www.kyokushin.nz](http://www.kyokushin.nz) web site, you are ready to install.

Please ensure you have administrator rights on your machine when installing this software. Then execute the downloaded KMS\_Client\_System.exe by double-clicking the downloaded file.

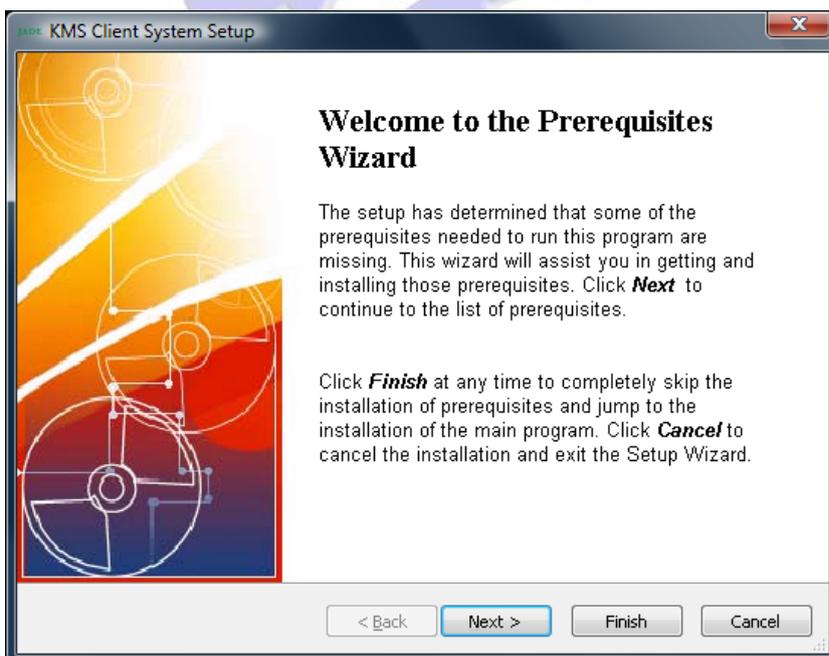
### 2.1. SELECT INSTALLATION LANGUAGE

If you are installing KMS using the KMS\_Client\_System.exe file, you will be asked to choose an installation language. Select your preferred installation language from the combo box.



### 2.2. KMS PREREQUISITES

If any of the KMS prerequisites are not met you will be presented the Prerequisites Wizard.



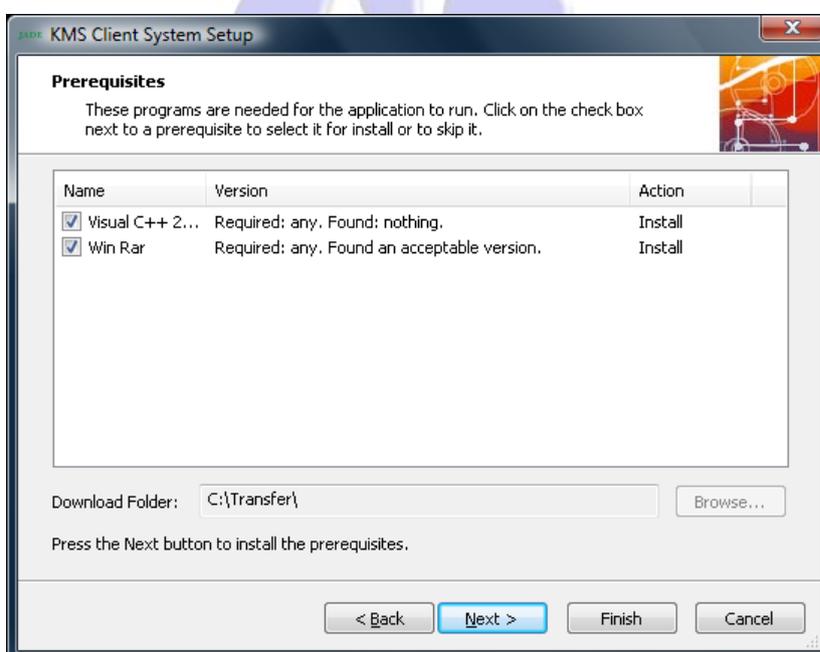
The KMS Client System requires other packages to operate successfully.

The KMS runtime executables require the Microsoft C++ 2005 re-distributable package to be installed.

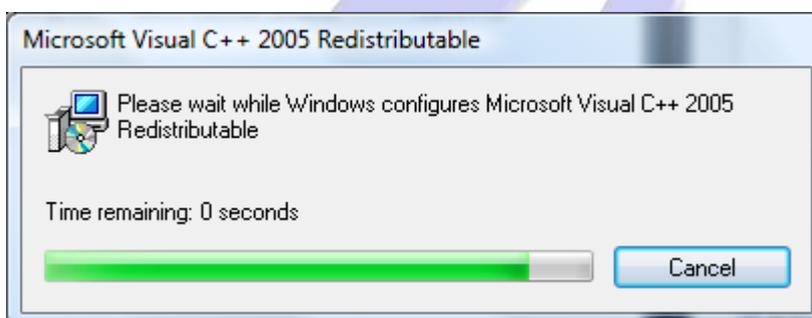
Certain maintenance operations, like the distribution of KMS software updates and pre-upgrade system backups, require the WinRAR package. WinRAR is a widely used and trusted archiving package. If you don't already have a version installed on your machine you can download the latest version from <http://www.rarlab.com/download.htm> and install this prior to installing KMS. The advantage of this is that you will be able to choose the installation location and configure WinRAR.

KMS only uses the command line tools from this package.

If KMS does not find WinRAR installed, it will install this version silently, in the default package location, with all default package settings.



Click **Next** to continue.

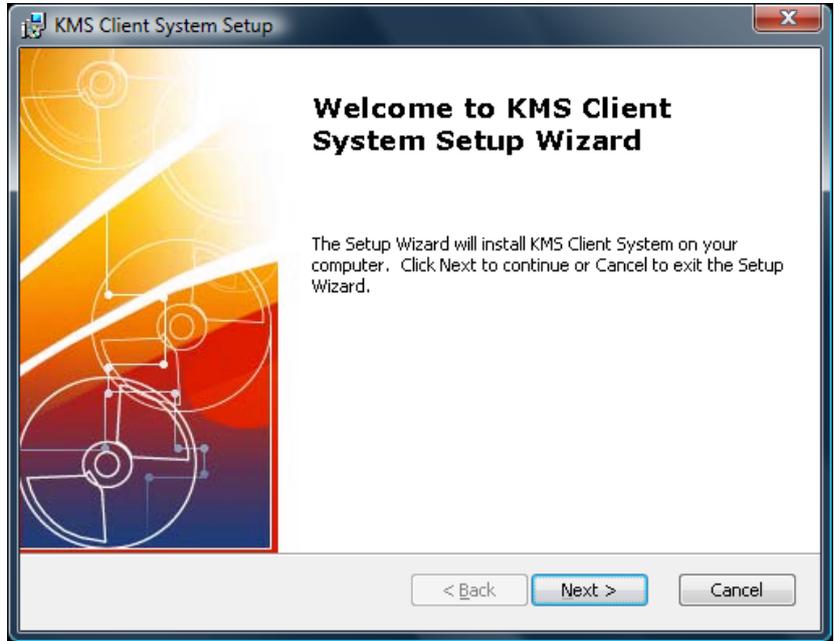


**Note:** Due to an interaction mismatch between the Advanced Installer and the WinRAR installation package, it is possible to receive conflicting indications that the WinRAR installation was successful, but that that WinRAR installation was not completed either.

If this occurs, please press Back and repeat the prerequisite installation. The second time this message will not occur and the installation will proceed.

### 2.3. INSTALLATION WELCOME

The installation welcome form will be the first displayed form when using the KMS\_Client\_System.msi installation file.

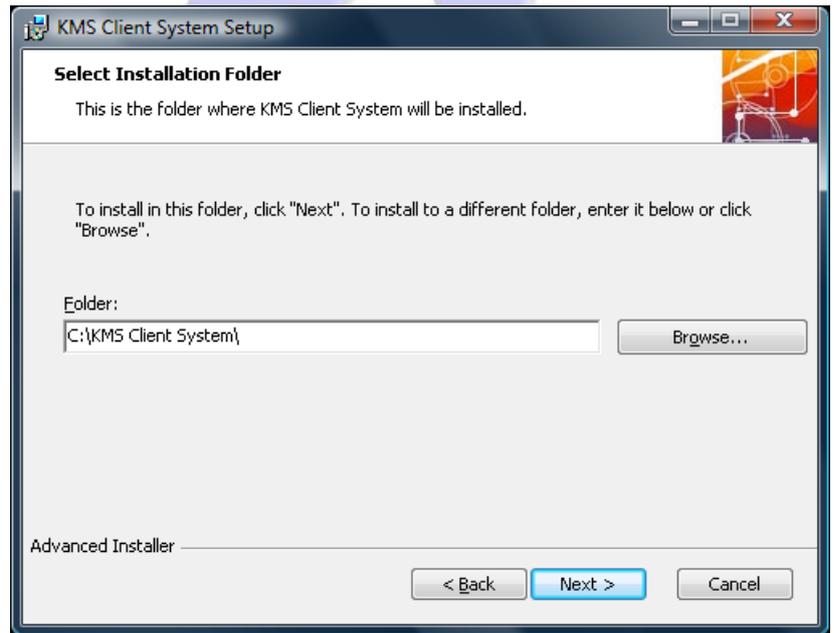


Click **Next**.

### 2.4. SELECT INSTALLATION LOCATION

You will be asked for the KMS installation location.

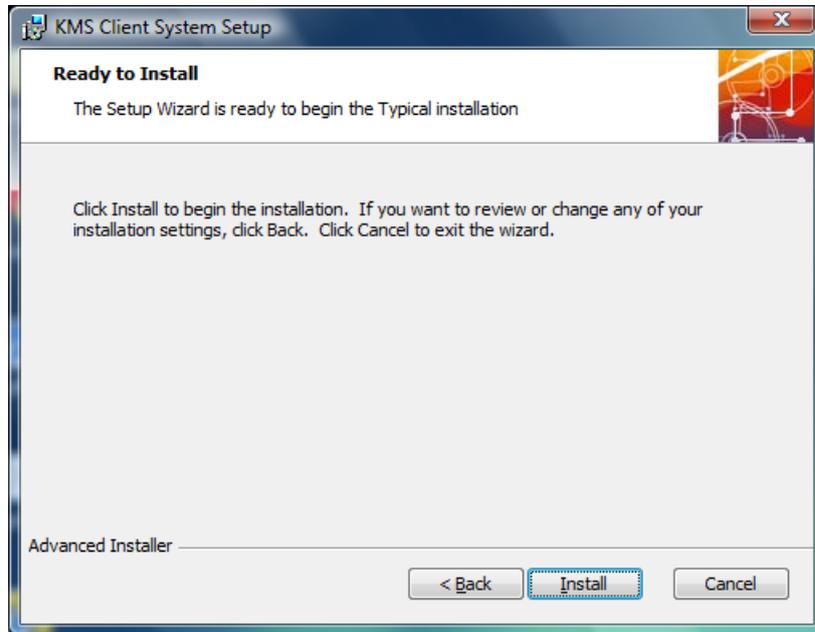
**Note:** It is best to avoid installing KMS under the Program Files folder, as the KMS Client System installation contains an active Object Oriented database.



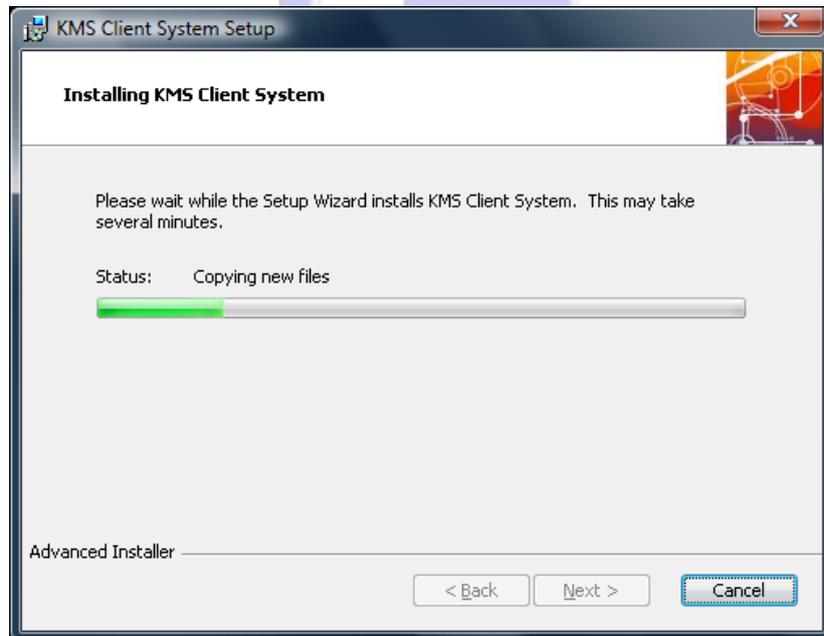
Enter the required installation location or use the Browse button to select the installation directory. Click **Next**.

## 2.5. START THE INSTALLATION PROCESS

The final installation form will allow you to go back and correct any input parameters.



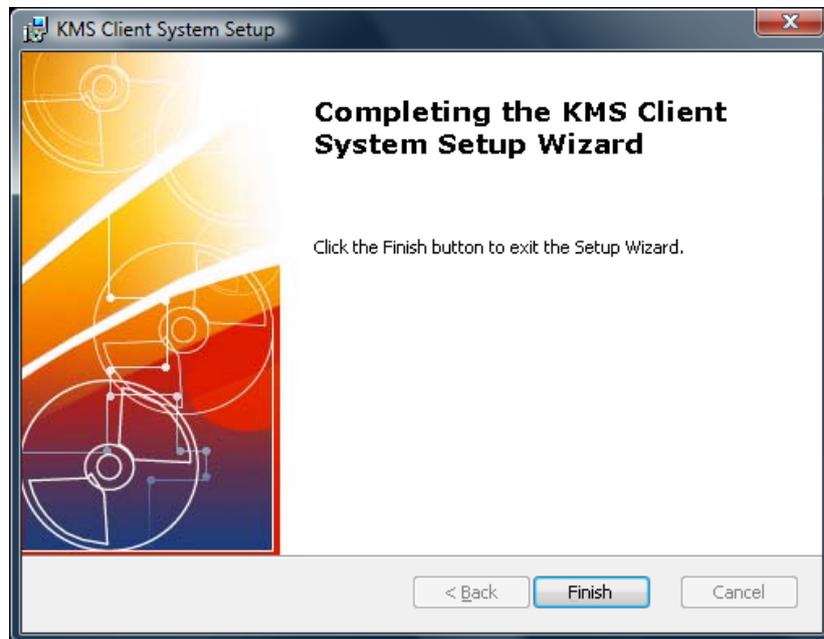
Click **Cancel** to terminate the installation or click **Install** to proceed.



Package installation will now commence. The installer will show the installation progress.

## 2.6. INSTALLATION COMPLETE

The next form indicates completion of the installation



### 3. INITIAL SYSTEM SET-UP

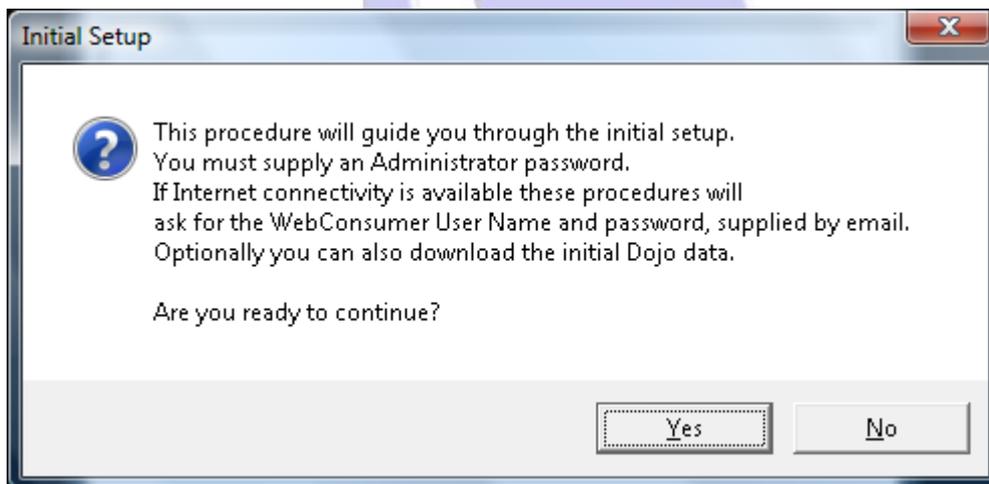
#### 3.1. STARTING KMS FOR THE FIRST TIME

After installation you will find the Single User **KMS Client** shortcut on your desktop.

Double-click this shortcut to start KMS.



On first startup of KMS initial set-up procedures will be initiated. A brief description of what will happen next is displayed

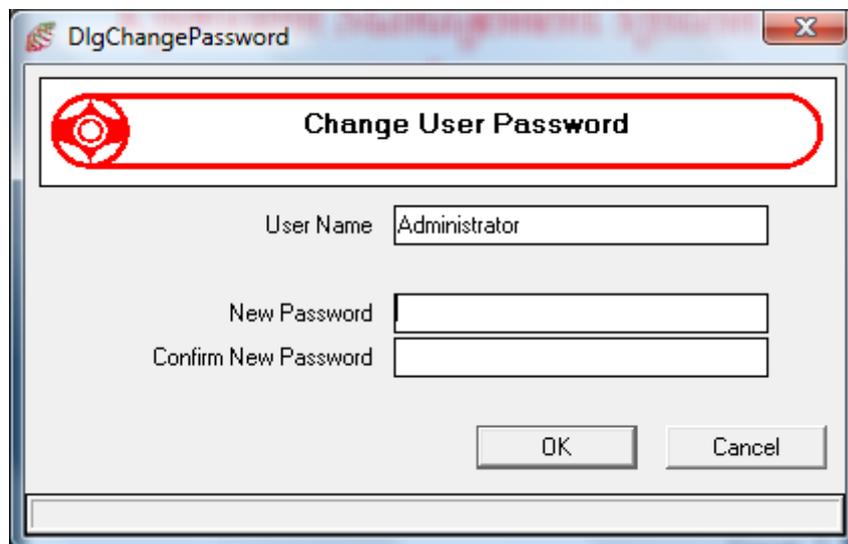


Click **Yes** if you are ready to continue, or **No** to exit.

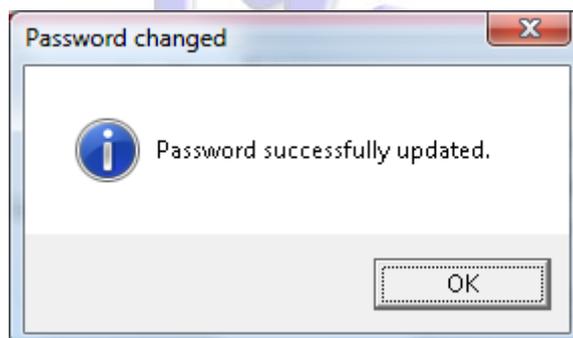
**Note:** If you have installed the KMS client without intention to create and maintain a Dojo, the initial setup will be initiated every time on startup. To avoid this, check the Box **Do Not Initiate Setup** . This is useful for users that only want to work locally to maintain the KMS system, for example if you want a local working copy to translate the system into another language and use the KMS synchronization capabilities to send your changes to the KMS server.

### 3.2. SUPPLY ADMINISTRATOR PASSWORD

When prompted for the Administrator password, please supply and confirm a password with a minimum length of 6 characters.

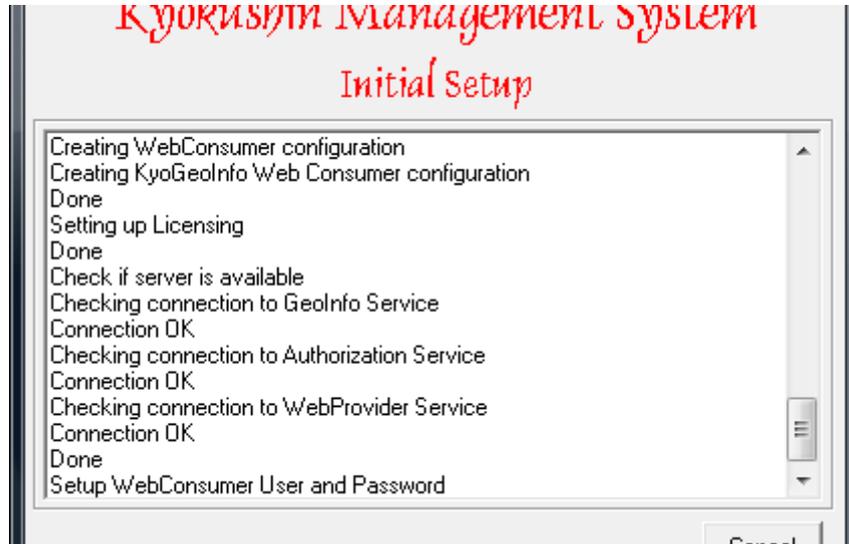


You will be notified of successful password entry and confirmation. Click Ok to continue.



### 3.3. CHECKING NETWORK ACCESS

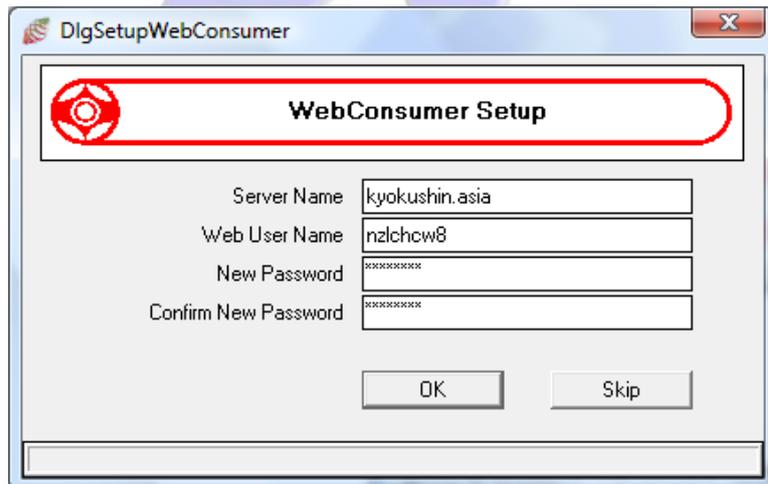
The set-up procedures will next check for the availability of the Kyokushin services through the Internet. These services are running on our main servers.



If no Internet connectivity could be established to all of these services the initial set-up will terminate at this point. As long as no Dojo has been created yet, the initial set-up procedures will prompt you with the above sequences at start up.

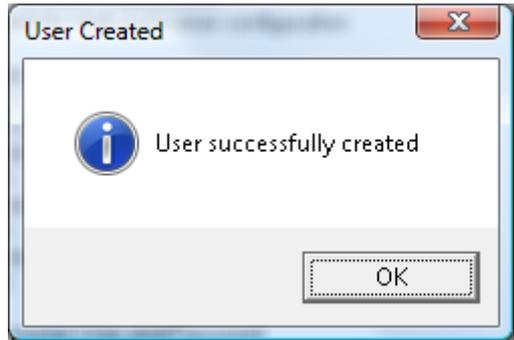
### 3.4. SET-UP WEBCONSUMER

When all required services are found you will be prompted for the WebConsumer username and password. This information is specified in the email you received in response to your system access request.



The default Server Name is www.kyokushin.asia, which is the Main KMS server. The Server Name field only needs to be changed if you need to connect to a localized Branch Server.

After successful verification you will get the following notification.

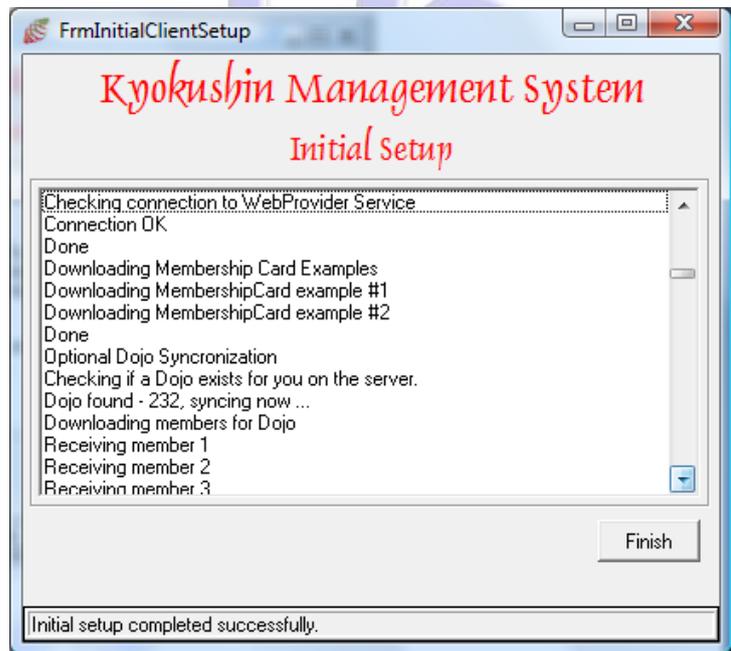


**Note:** If your license specifications were issued before stand-alone Client Systems were available, you must request a “Web Consumer” identification from KMS support.

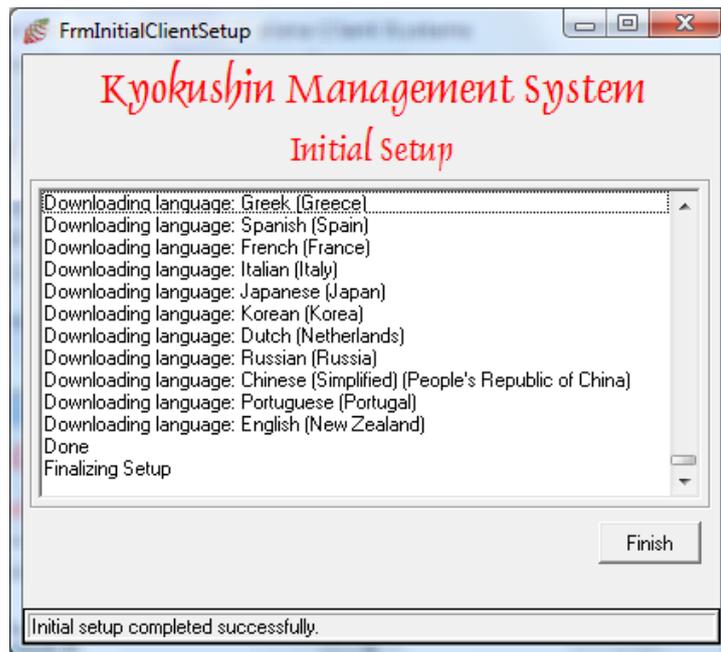
### 3.5. DOWNLOAD YOUR DOJO DATA

It is now checked if you have already created a Dojo on the main server. Your Dojo may already exist on the main Kyokushin server, if you have previously accessed the system through the KMS Presentation Client.

If a Dojo is found, the data for this Dojo and all its members will be synchronized to your KMS Client System.



Finally any language updates will be downloaded and loaded to your system.



Upon completion click **Finish**.

Congratulations, you are now ready to start using your KMS Client System.

### 3.6. RUNNING MULTIPLE KMS SYSTEMS

**Note:** If want to run multiple KMS Client System instances for the same Dojo, please request additional WebConsumer identifications from KMS support. **NEVER** use the same WebConsumer identification from multiple KMS Client systems.

## 4. SYSTEM MONITORING

Please note that your operator identifier may not have permission to view certain aspects of system administration. Some tabs, as shown in images below, may not be visible for you.

### 4.1. OPERATOR MONITORING

To check the system Operator status, open the System Administration Form and select **the Operator Status**. Now you will be able to see the current status of each defined operator.

The table can be sorted by clicking on the top fixed row of the table.

| Operator Id | Name              | Description               | Status       | Last Logon                | Last Logoff               | Top Visible Object          |
|-------------|-------------------|---------------------------|--------------|---------------------------|---------------------------|-----------------------------|
| nz1chcw8    |                   |                           | Web Operator | 01 October 2008, 23:02:12 | 01 October 2008, 23:04:12 | Kyokushin Karate Canterbury |
| nz1chcw3    |                   | Japanese Translation      | Web Operator | 00:00:00                  | 00:00:00                  | Kyokushin Karate Canterbury |
| nz1chcw2    |                   | Rob Engelken laptop       | Web Operator | 05 October 2008, 00:13:49 | 05 October 2008, 00:13:49 | Kyokushin Karate Canterbury |
| kyosuz1     | Suzuki, Yoshikazu | So-Honbu Chief Instructor | Offline      | 00:00:00                  | 00:00:00                  | KyokushinRoot               |
| kyorse1     | Engelken, Robert  | System Administrator      | Online       | 05 October 2008, 20:44:58 | 05 October 2008, 16:41:31 | KyokushinRoot               |
| kyokoy1     | Dyama, Kuristina  | IKOK Custodian            | Offline      | 00:00:00                  | 00:00:00                  | KyokushinRoot               |
| chcsc1      | Chaker, Sonia     | Translator French         | Offline      | 27 March 2008, 20:30:53   | 27 March 2008, 21:03:03   | Kyokushin Karate Canterbury |
| cameron     | Quinn, Cameron    | Technical Director IKO    | Offline      | 00:00:00                  | 00:00:00                  | Australia                   |
| Karl        | Varley, Karl      | Branch Chief Oceania      | Offline      | 00:00:00                  | 00:00:00                  | Region/2432.1               |

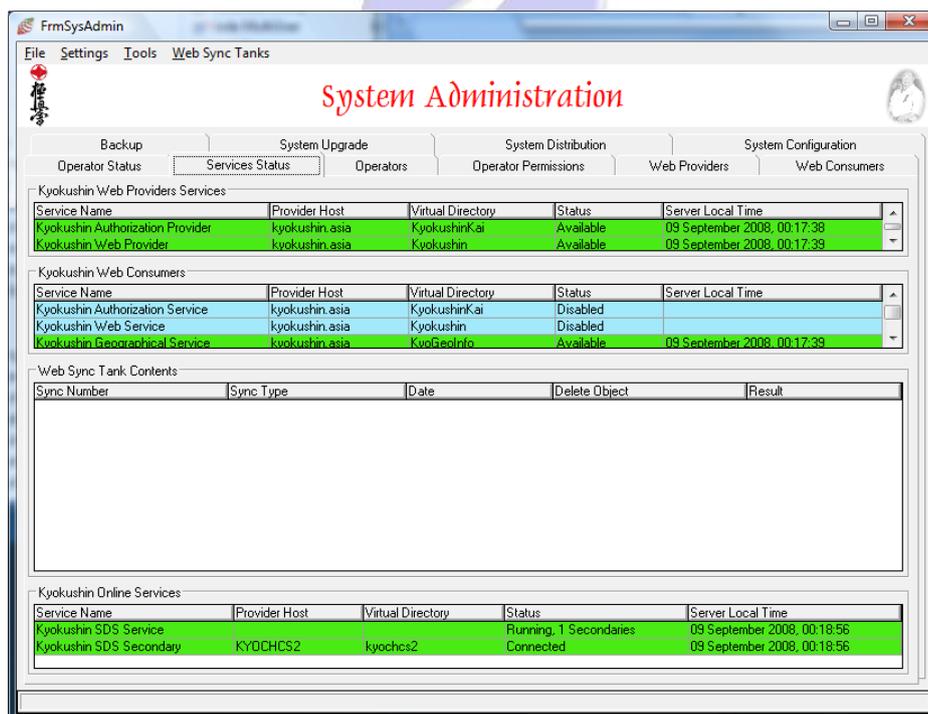
One line is displayed for each defined operator. The status of the operator is also visually defined by a different colour, which will help identifying any anomalies, should they arise.

## 4.2. SERVICES MONITORING

To check the status of the System Services open the System Administration form and select the **Services Status** tab.

Depending on the set-up and functionality of your system entries on this form may indicate to be active or disabled.

Each service entry will display its status in text and by colour.



For a more detailed description of Web Services, please refer to **Web Services** chapter, later in this manual.

For a more detailed description of **Synchronized Database Services** (SDS) please refer to the **Advanced System Configuration** chapter, later in this manual.

The web Sync Tank contents shows the contents of any outstanding synchronization transaction, which have not been sent to the remote server yet. If the top entry of this table indicates an error has occurred, please contact KMS support. It is important to have systems synchronize regularly, to avoid conflict where items have been altered on multiple systems.

By default the WebConsumer Sync Tank is displayed in the Web Sync Tank contents. On KMS Client Systems this is the only available Web Sync Tank. On KMS Server systems you can select a WebConsumer Sync Tank from the "Web Sync Tanks" menu.

## 5. OPERATORS

### 5.1. CREATE AN OPERATOR

To create an operator open the System Administration Form and select the Operators tab.

The screenshot shows the 'System Administration' window with the 'Operators' tab selected. The 'Geographical Browser' on the left shows a tree view with 'Kyokushin' selected. The 'Operator Details' section contains the following fields:

- Select Operator: [Dropdown]
- Operator Id: [Text box containing 'kyorse2']
- First Form: [Dropdown containing 'FrmSysAdmin']
- Description: [Text box containing 'System Administrator']
- Surname: [Text box containing 'Engelken']
- First Name: [Text box containing 'Robert']
- Address: [Text box containing '23b Rempstone Drive']
- Suburb: [Text box containing 'Westlake']
- City: [Text box containing 'Christchurch']
- Country: [Text box containing 'New Zealand']
- Phone 1: [Text box containing '+64 3 3224250']
- Phone 2: [Text box containing '+64 27 4762243']
- Email: [Text box containing 'engel@xtra.co.nz']
- Default Language: [Dropdown containing 'English (New Zealand)']

The 'Function' section has radio buttons for:

- System Administrator
- Country Admin Administrator
- Branch Administrator
- Dojo Administrator
- Data Entry Operator
- Application Translator
- WebService Identification

The 'Operator Preferences' section has checkboxes for:

- Osu at Logon
- Show Member Pictures

Buttons for 'Add', 'Update', and 'Remove' are visible at the bottom of the form.

On this tab you will see the current geographical set-up of the system in the **Geographical Browser**. In the **Operators Details** section, enter the identification of the new operator in the **Operator Id** text box, select the first form you want this operator to sign-on to and enter any further details.

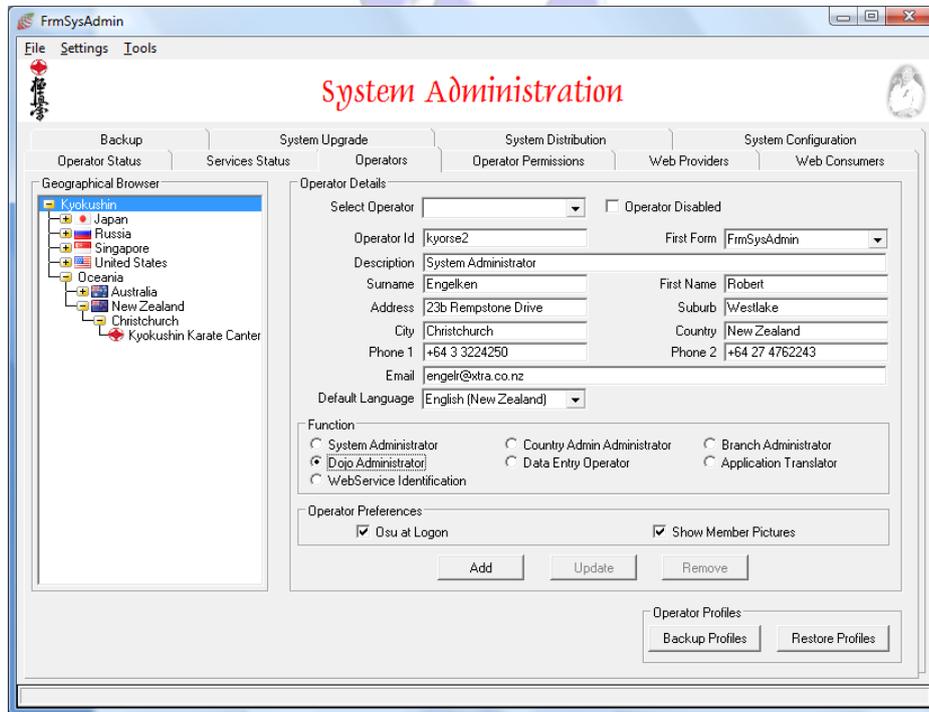
If the operator Id does not exist yet, the **Add** button and the **Function** group will be enabled. In the Function group you can select the role for your new operator. Selecting a role pre-defines the permissions for the new operator in KMS.

You can click the **Add** button to create the new operator or you can fine-tune the operator permissions and / or restrict geographical access first.

## 5.2. OPERATOR PERMISSIONS

### 5.2.1. PRE-CONFIGURED PERMISSIONS

When adding a new operator the Functions group will also be enabled. In this group you can use one of the pre-defined KMS permissions groups.

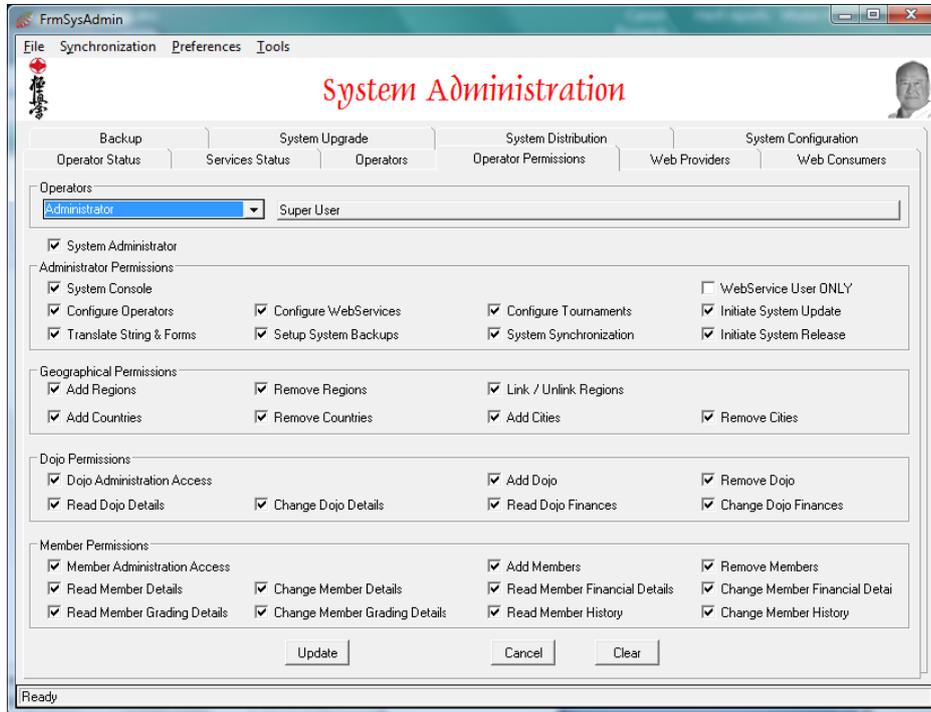


Selecting an operator type is will set all permissions to pre-defined values. This is by no means a hard rule to use these permissions, but more an initial guide line.

Each individual security item can be enabled or disabled on the Operator Permissions page, as explained in the next paragraph.

### 5.2.2. FINE TUNING PERMISSIONS

To fine-tune operator permissions open the System Administration Form and select the Operator Permissions tab.

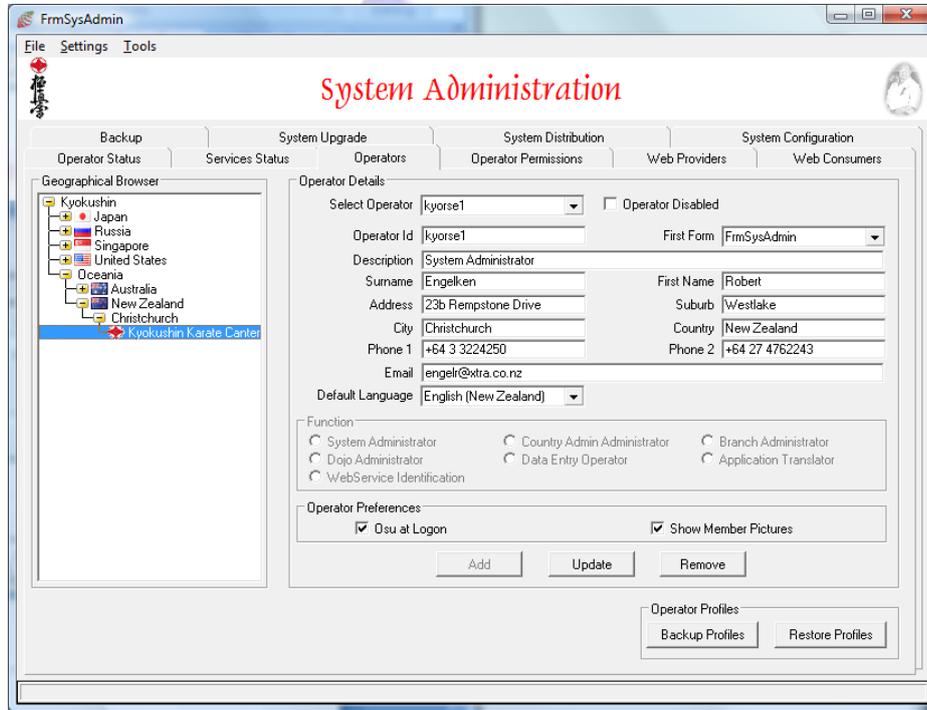


Carefully select or unselect each individual item for your selected operator.

Click **Update** when your changes are complete, or go back to the **Operators** page, if you were in the process of creating a new Operator.

### 5.3. RESTRICTING OPERATOR ACCESS

Additional to the Operator Permissions items, it is possible to define the Top Visible System Object. This means that this Operator is only able to see any objects in the Dojo Browser from this Top Visible Object down.



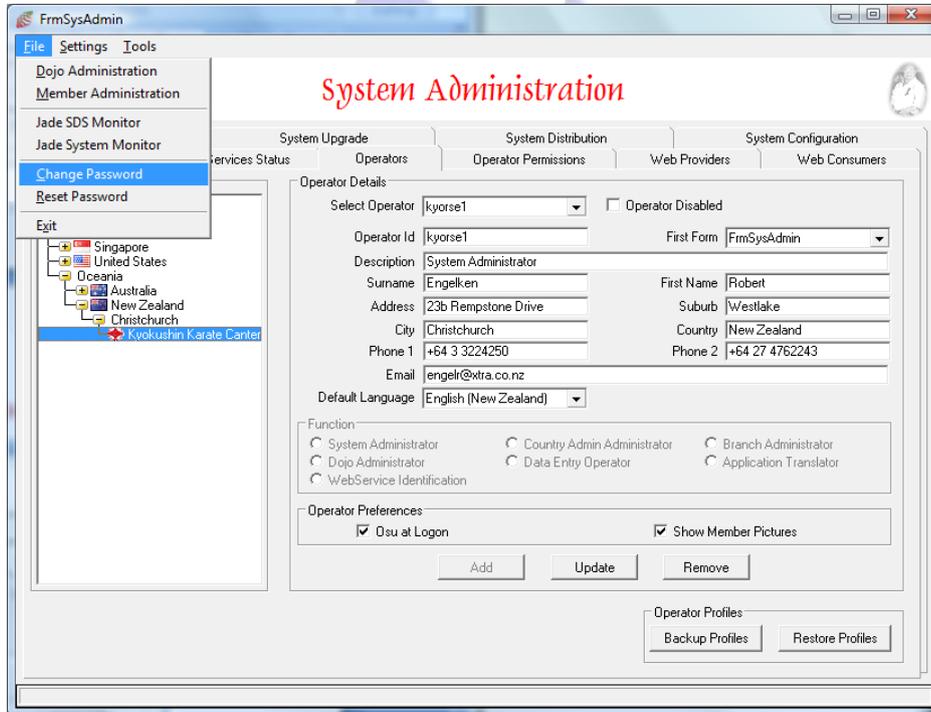
For example, if the Top Visible Object for an Operator is a Dojo, then this Operator will only be able to see that Dojo in the Dojo Browser on the Dojo and Member Administration Forms.

If the Top Visible Object for an Operator is a Country, this Operator has access to all Cities and Dojo within that Country. However all defined Operator Permissions apply to all of these objects.

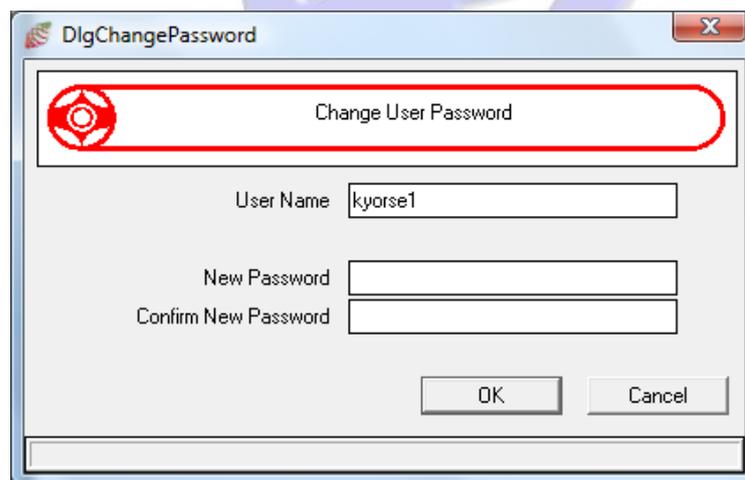
## 5.4. SETTING/CHANGING OPERATOR PASSWORD

To change an operator password, open the System Administration Form. Click the Operators tab and select the Operator for which you want to change the password.

Open the File menu and select **Change Password**.



The change password dialog will now be displayed with your selected Operator name pre-filled.

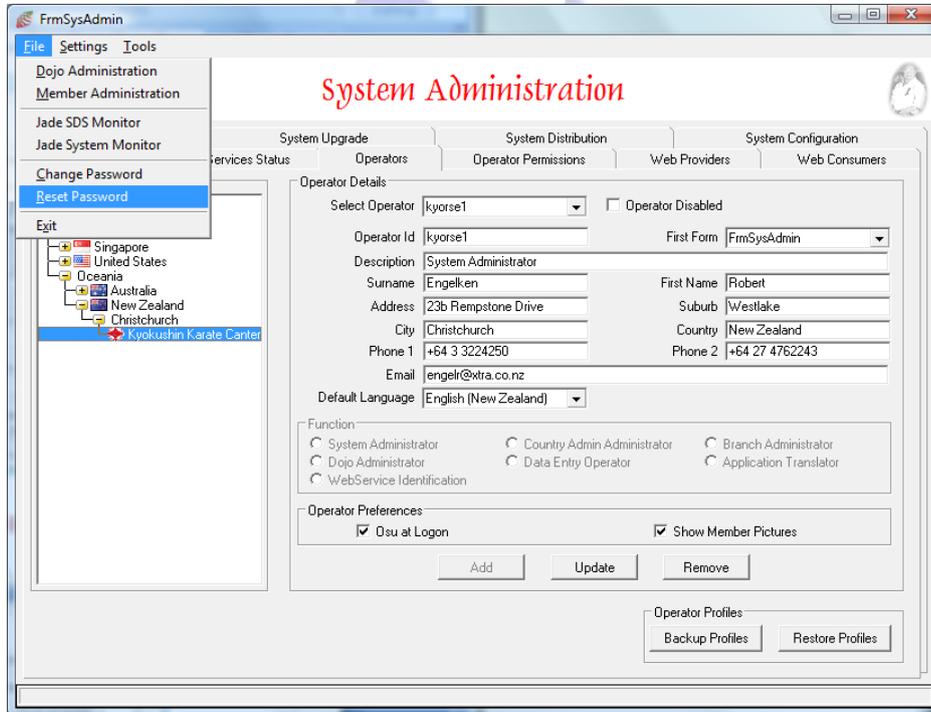


Enter the new password, and confirm this new password. Click OK to finalize changing the Operator's password.

## 5.5. RESETTING OPERATOR PASSWORD

To change an operator password, open the System Administration Form. Click the Operators tab and select the Operator for which you want to change the password.

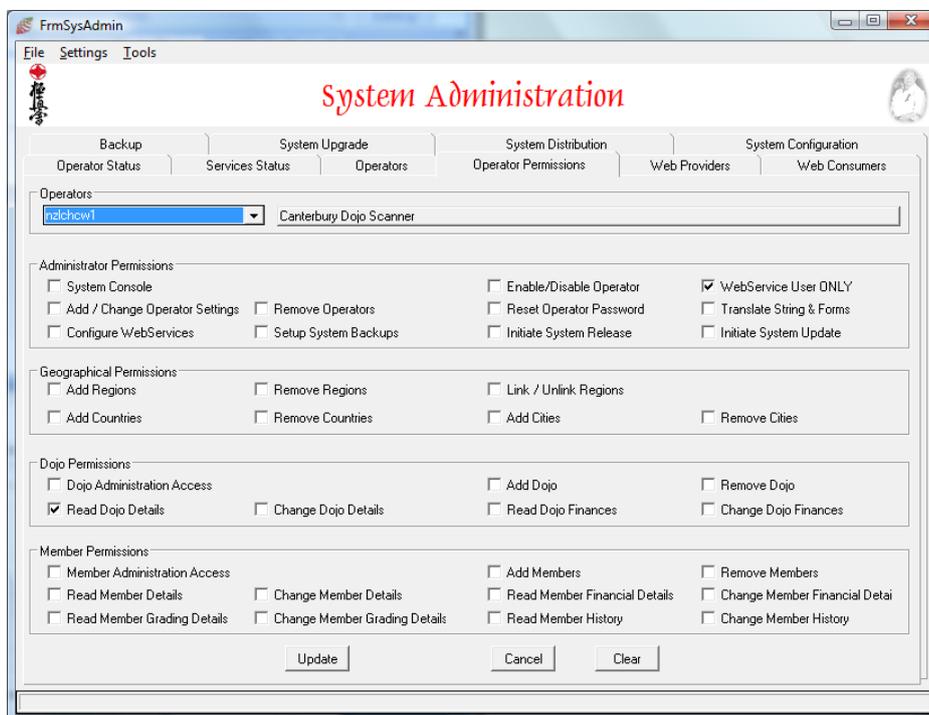
Open the File menu and select **Reset Password**.



The password for the Operator has now been reset to "secret". Upon next login the Operator will be prompted to change its password.

## 5.6. WEBSERVICE OPERATOR

When an Operator is created for the purpose of WebServices identification, select the **WebService User ONLY** permissions item.

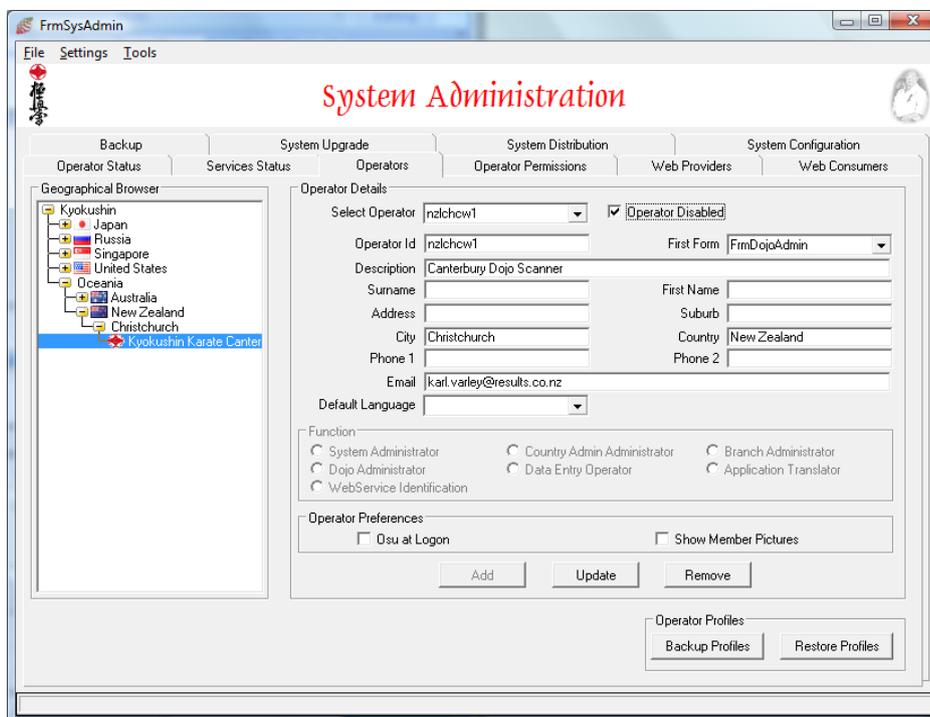


A WebServices user is defined for the specific purpose of an agreed identification between 2 KMS systems, e.g. between a KMS Client System and the KMS main Server. The Operator name and password combination must match on both systems, or else communication between these systems will fail to initiate.

**Note:** A KMS Client system may indicate active services on the Service Status page, but this only indicates its availability. It does not guarantee that the Operator id and password has been set-up correctly. More on this subject will be explained in the Advanced System Configuration Chapter.

## 5.7. DISABLE AN OPERATOR

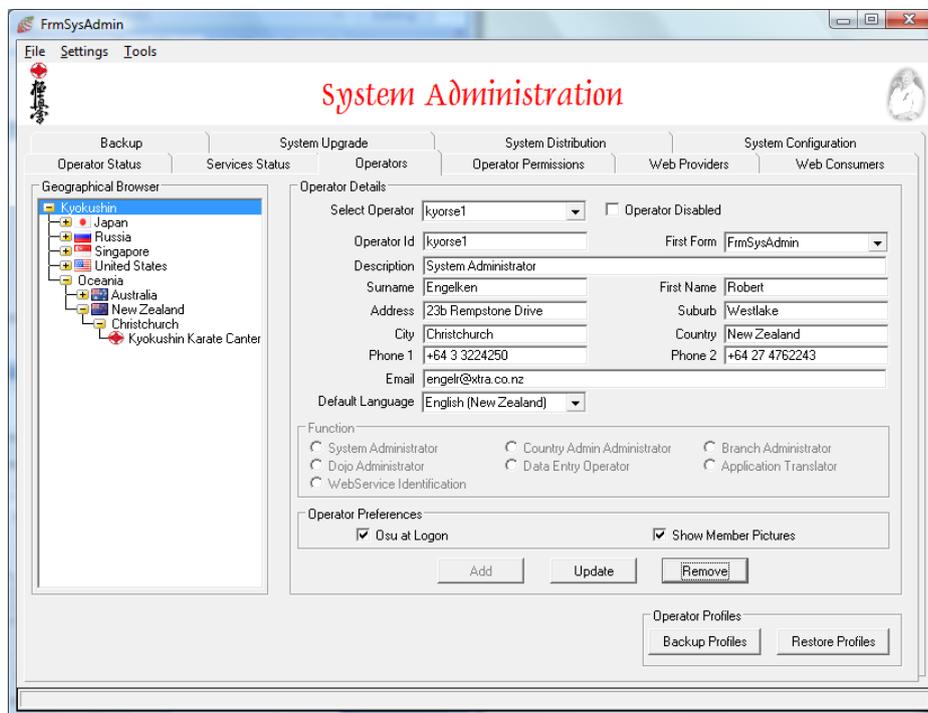
To disable an operator open the System Administration Form and select the Operators tab.



In the Operator Details group select an operator in the **Select Operator** ComboBox. The operator details will now be displayed. If you are sure you want to disable this operator from the system, check the **Operator Disabled** CheckBox and click the **Update** Button. The selected operator will not be able to login to the system anymore. If the selected operator is a Web Operator, remote data synchronization is disabled.

## 5.8. REMOVE AN OPERATOR

To remove an operator open the System Administration Form and select the Operators tab.



In the Operator Details group select an operator in the Select Operator ComboBox. The operator details will now be displayed. If you are sure you want to remove this operator from the system, click the **Remove** Button.

The Operator and all its preference settings are removed from the system.

**Note:** If the Operator is a WebUser operator, it's synchronization settings and synchronization queues are removed, along with any unsend synchronization items.

**Note:** If the Operator is a WebUser operator, it is the task of the remote System's Administrator to perform the same action on it's system.

## 6. WEB SERVICES

KMS uses 4 different Web Services for communication between KMS Systems.

3 Webservice Provider are used for Web Authorization, Web Services and Geographical Services.

The 4<sup>th</sup> type is the actual Web Consumer, which uses all of the 3 above services.

Web Authorization services are used by KMS Consumer systems to login to a KMS Webservice Provider system. Upon successful login a digital key is returned to the Consumer. During a synchronization session the Consumer is required to provide this digital key with every individual communication, which will be verified before executing the requested operation.

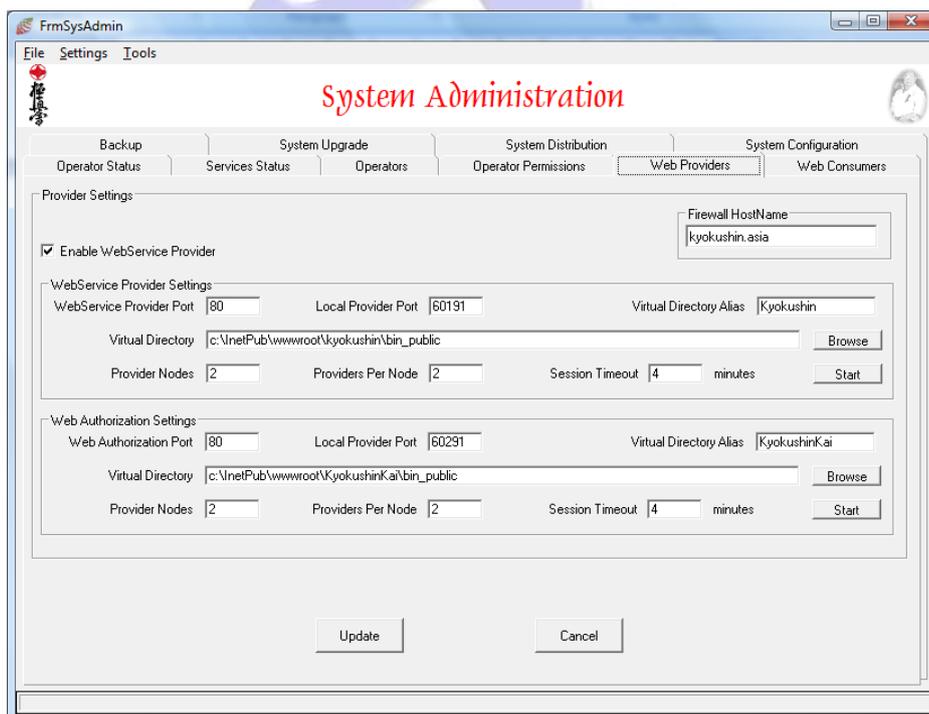
Web Services are the processes that actually do the work a any given Consumer request.

The KMS Geographical Service was created as a central database for global geographical data. Web Consumers use this service to load only the required country and city data, required for their own environment. This has the advantage that KMS systems do not need to store the vast amount of geographical data. It also provides a central control system to manage identification numbers for geographical units, as each language has different names for the same unit.

**Note:** The KMS Geographical Service is fully independent from other KMS Services.

### 6.1. CONFIGURING THE WEB PROVIDER

To configure Webservice Provider settings, open the System Administration form and select the **Web Providers** tab.



The web service provider only needs to be enabled and configured if you require KMS Branch Systems or KMS Client systems to connect into your system, in order to synchronize their data. Ensure this option is disabled on KMS Client Systems, as no other systems will synchronize data into your system.

Your server is most likely situated behind a network firewall. In the Firewall HostName text box specify the name of the server or the IP address which other KMS systems need to use to find your server on the Internet.

In the unlikely, and un-recommended, event your server is directly available on the Internet, specify your server's computer name.

### 6.1.1. WEBSERVICE AUTHORIZATION SET-UP

The Web Authorization port and Virtual Directory must reflect the Operating System's Web Service configuration (Windows IIS or Apache Server).

Specify a local provider port. This value must be a port number, which is not in use by other processes on your server machine. A value between 1025 and 65534 can be specified, but it is advised to keep this value above 32768. From the windows command prompt you can check if a port is in use by another process using the 'netstat -a' command. The purpose of this port is to create a communication channel between the Windows Operating IIS service and the physical KMS processes.

Specify how many individual Provider Nodes (Operating System processes) you wish to start and how many Authorization Provider processes need to run on each of these nodes. Depending on the number of client systems connecting into your system you may want to increase the number of Authorization nodes and processes. On relatively quiet systems 1 node with 2 Authorization processes is a good start configuration.

Specify the session timeout in minutes.

The Web Authorization nodes are automatically started when the server process is started. If you wish to start and / or stop these nodes manually you can use the Start / Stop button.

Click **Update** to save your changes.

### 6.1.2. WEBSERVICE PROVIDER SET-UP

The Webservice Provider port and Virtual Directory must reflect the Operating System's Web Service configuration (Windows IIS or Apache Server).

Specify a local provider port. This value must be a port number, which is not in use by other processes on your server machine. A value between 1025 and 65534 can be specified, but it is advised to keep this value above 32768. From the windows command prompt you can check if a port is in use by another process using the 'netstat -a' command. The purpose of this port is to create a communication channel between the Windows Operating IIS service and the physical KMS processes.

Specify how many individual Provider Nodes (Operating System processes) you wish to start and how many Webservice Provider processes need to run on each of these nodes. Depending on the number of client systems connecting into your system you may want to increase the number of Webservice Provider nodes and processes. On

relatively quiet systems 2 nodes with 2 WebService Provider processes is a good start configuration.

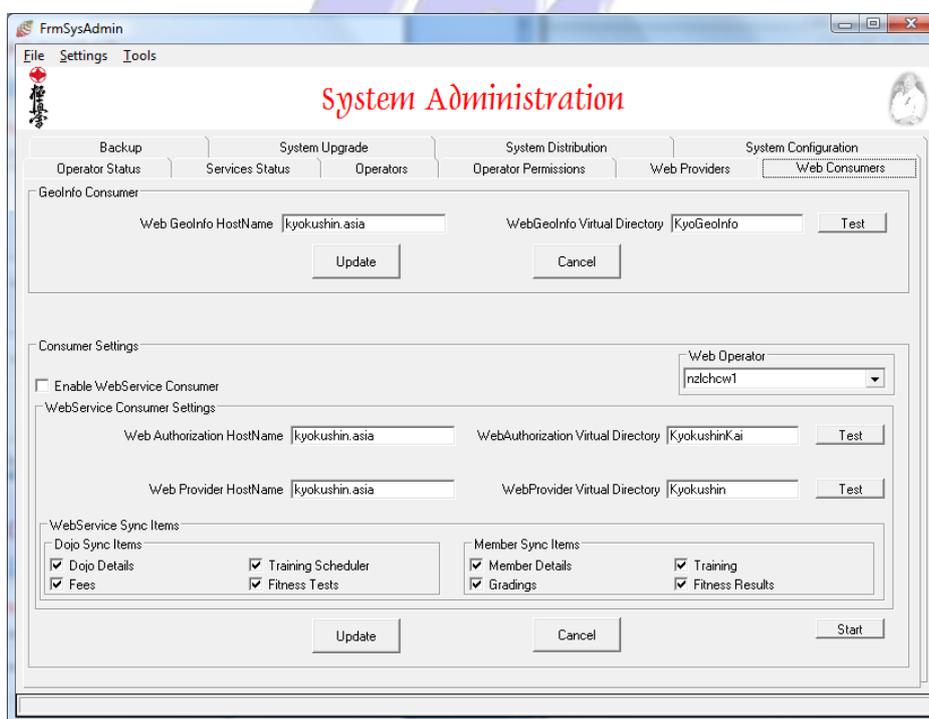
Specify the session timeout in minutes.

The WebService Provider nodes are automatically started when the server process is started. If you wish to start and / or stop these nodes manually you can use the Start / Stop button.

Click **Update** to save your changes.

## 6.2. CONFIGURING THE WEB CONSUMER

To configure WebConsumer settings, open the System Administration form and select the **Web Consumers** tab.



The GeoInfo Consumer settings are required to access the KMS geographical services, required when adding countries and/or cities into your system.

Specify the GeoInfo host name, as accessed through the Internet and the Virtual Directory name for this service on that machine. If you do not know these settings, ask your network administrator or contact KMS support. It is not likely you need to change these settings from the default values.

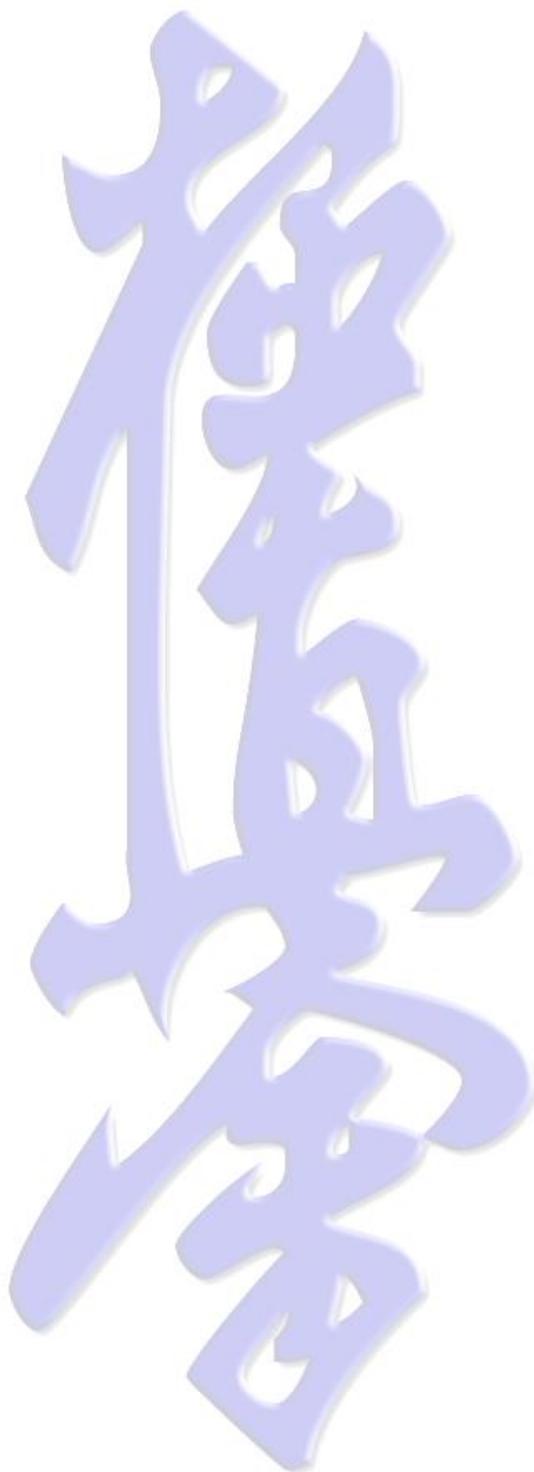
The WebService Consumer has already been configured automatically during the Initial Set-up, if your system connects to the main KMS server.

Enable or disable the WebService Consumer, as required.

Provide the host name and Virtual Directory alias for the Authorization and Web Provider services.

Additionally you are able to restrict the synchronization to certain types of data. It is highly recommended to have all options checked, as this will ensure a remote backup

is available for your data in case of a disaster, e.g. hard disk failure and/or loss of backup data in case of natural disaster.



## 7. SYSTEM BACKUP

### 7.1. OFFSITE BACKUP

It is recommended to backup your system regularly to ensure your data can be recovered in case of disaster.

This can be done by shutting down your KMS system and copy the complete KMS installation directories to another location on the network or by saving the complete KMS installation onto write-able media like DVD or Blue Ray.

It is recommended to perform such a backup at least every month. Store the backup media in a safe and fire resistant location, preferably in a different location from where your KMS machine is operating.

### 7.2. KMS INTERNAL BACKUP SUPPORT

To access Backup support open the System Administration Form and select the **Backup** tab. The Backup page shows the KMS database directory.

Specify the backup base directory in **Backup Directory**. The actual backup directory will be a sub-directory within the specified base directory. The name of this sub directory is the current date in digits, formatted as `yyyymmdd` (20080507 for 7<sup>th</sup> May 2008).

Specify the number of database worker backup processes. If your KMS system is running on a normal desktop or laptop type machine, leave this setting to default **1**.

Select the backup mode, online or quiesced.

**Online** mode takes a system backup while it is fully operational. Users can still use the system. The system will also automatically backup any database journals generated during the backup period, to ensure all data changes during this period are not lost, if recovery is required.

**Quiesced** mode requires all processes to be idle. No system updating is allowed during the backup. The database will be locked for updates. Any attempt to update the system will result in an error being displayed.

Other optional settings are:

**Verify Files:** Verify the contents of the backup files against the original database files. This ensures the integrity of your backup files, but it will extend the backup time.

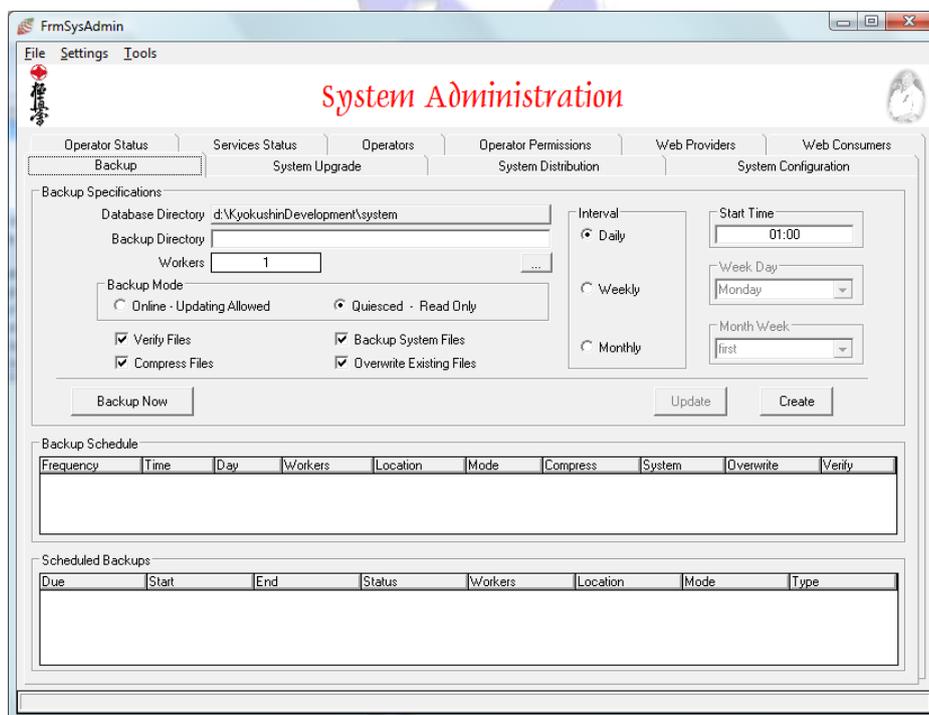
**Compress Files:** Store the backup files in compressed format. This may save much disk space, but will extend the backup time.

**Backup System Files:** If set this option will include the system backup files in the backup procedures. System files only change when the underlying Jade system release is changed. This option is usually not required and will result in increased disk usage and extended backup time.

**Overwrite Existing Files:** Causes an existing backup in the same backup directory to be overwritten. This is only the case if multiple backups are executed on the same day.

### 7.2.1. MANUAL KMS BACKUP

To create an ad-hoc backup, provide the Backup specifications, as explained in the previous paragraph.



Click **Backup Now**. Once the backup procedures have completed, you are able to copy the backup files from the dated sub-directory on the base Backup Directory to another location or to removable media, such as DVD or Blue Ray.

### 7.2.2. AUTOMATED KMS BACKUP

#### 7.2.2.1. CREATE A BACKUP SCHEDULER ENTRY

To set-up automated backups you need to create one or more backup schedule entries. To create a backup Schedule Entry complete all information in the **Backup Specifications** group, as explained previously in this chapter.

Provide the **Interval** type and **Start Time**. For a Weekly scheduler entry, select the **Week Day**. For a Monthly scheduler entry select the week of the month.

Click **Create**.

#### 7.2.2.2. MODIFY A BACKUP SCHEDULER ENTRY

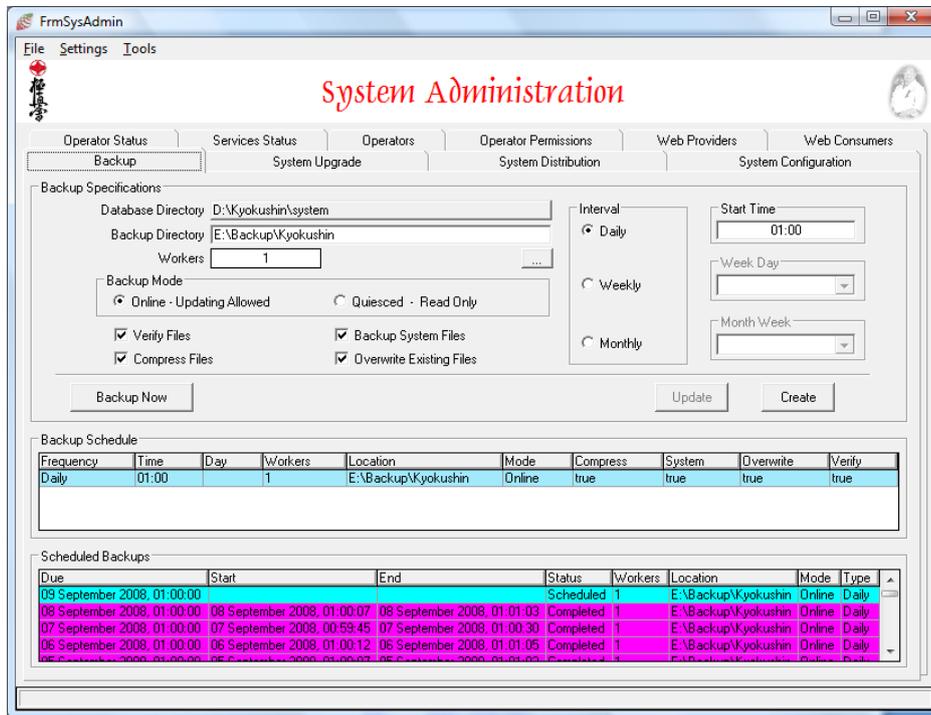
In the Backup Schedule table select the Backup Scheduler Entry you wish to modify. The Scheduler Entry settings will be displayed in the Backup Specifications group.

Modify the settings as required.

Click **Update**.

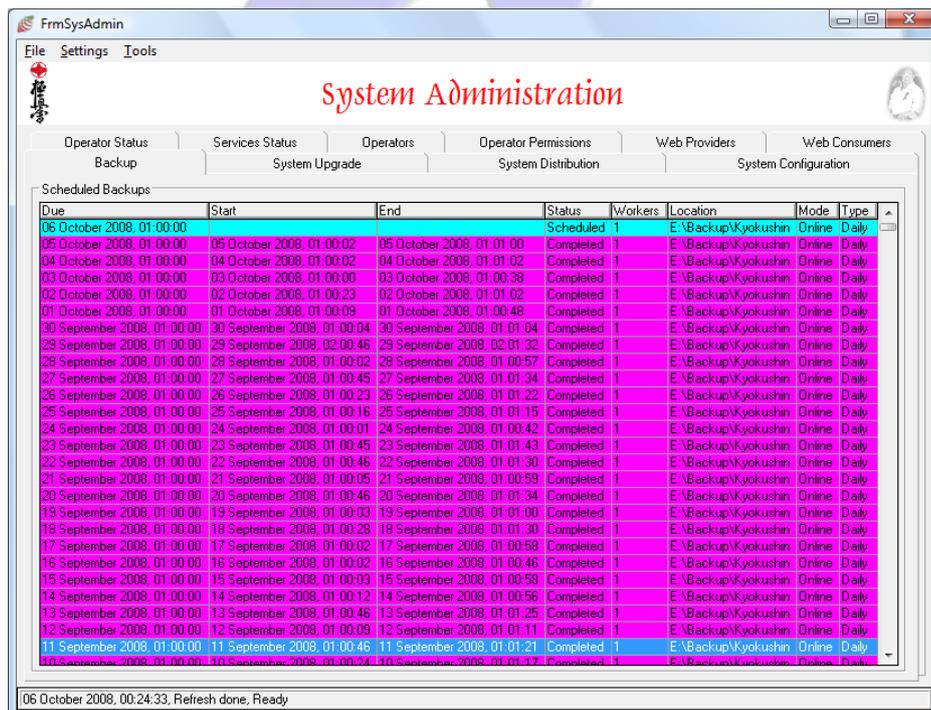
## Backup logs

The Scheduled Backups table shows the future backup jobs, created by KMS, as well as the past backup jobs.



Each backup job is easily recognized by its status colour. Regularly check the backup history to verify all jobs have been executed without error, or have been missed altogether.

Right-click on the Scheduled Backup table entries will display the maintenance options for selected entries. Select Maximize to increase the size of the Scheduled Backups table, which will show more history entries on the page.

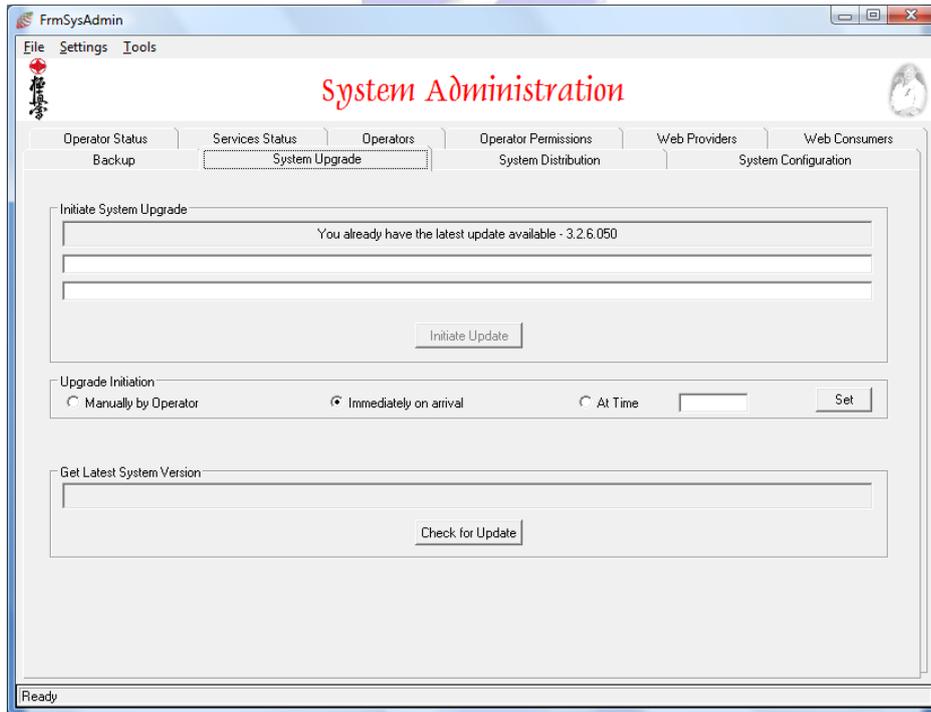


Select **Remove** to delete any unwanted history information.

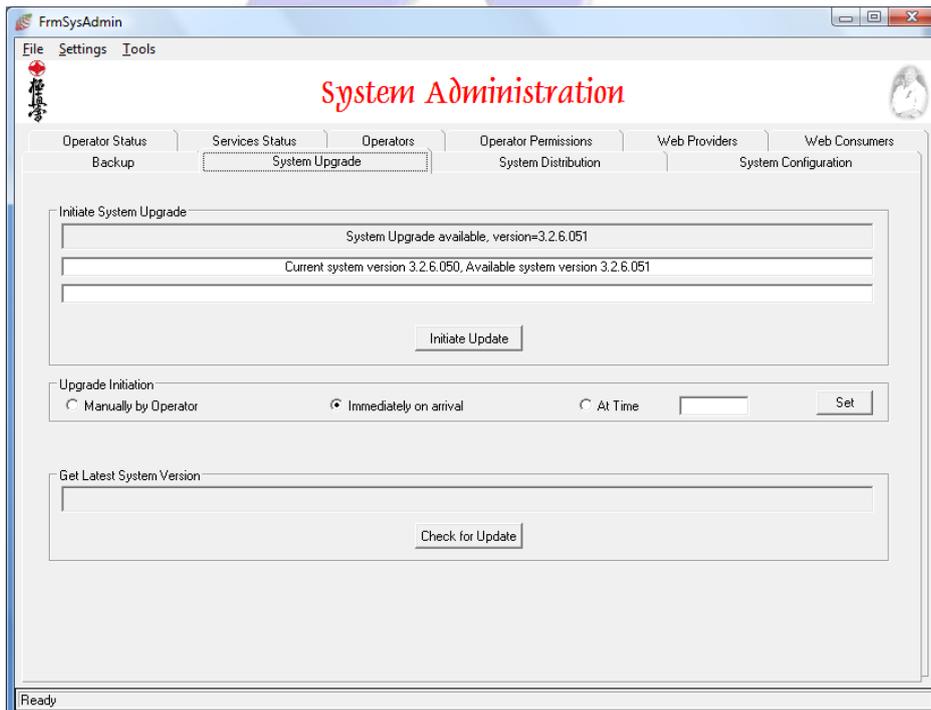
## 8. SYSTEM UPGRADE

KMS has an internal upgrade system. As system updates become available they are distributed from the main KMS server to every KMS System.

To check for an available system upgrade, open the System Administration Form and select the **System Upgrade** tab. If an upgrade is not available the System Upgrade page will indicate you already have the latest update available.



If a system upgrade is available KMS will indicate which new version is available.



KMS system upgrades are sent as part of the synchronization communication.

Should you wish to check manually if an upgrade is available you can click **Check for Update**, while connected to the Internet. If an upgrade is available, it will be scheduled to be sent to you from the server.

Once a KMS system upgrade has arrived it will be processed according to your **Upgrade Initiation** setting.

Select your preferred manner of system upgrading the system and click **Set** to save your preference.

## 8.1. MANUAL UPGRADE INITIATION

If you wish to decide when the system upgrade takes place select **Manually by Operator**. System upgrades will be downloaded only. The availability is indicated on the System Upgrade page.

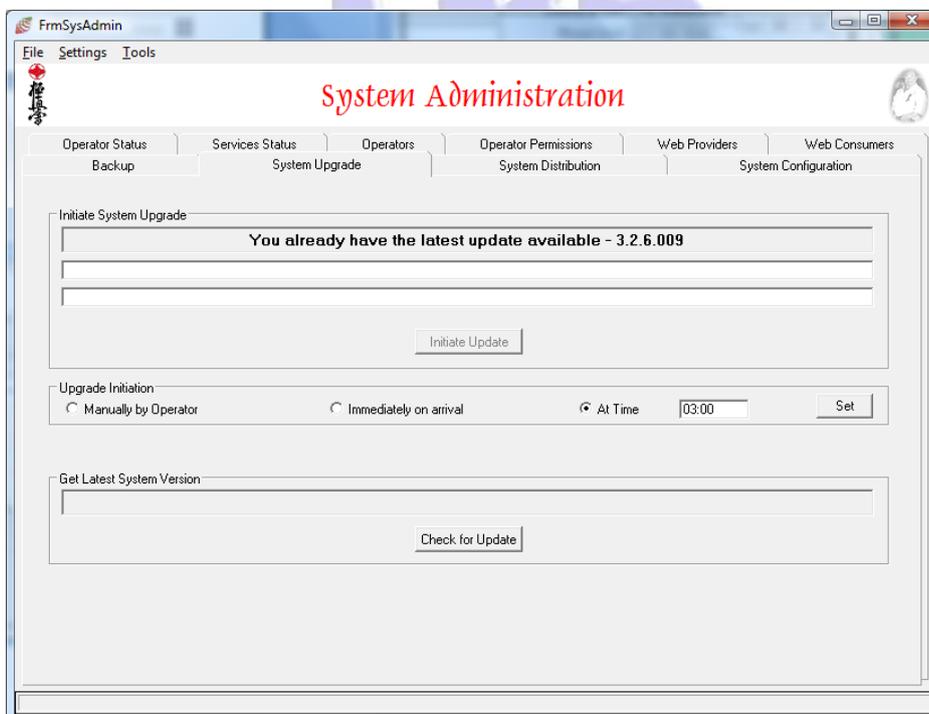
The operator has to click **Initiate Update** to start the upgrade procedures.

## 8.2. AUTOMATED UPGRADE INITIATION

If you wish the system is automatically upgraded upon arrival of each update select **Immediately on Arrival**.

## 8.3. UPGRADE AT A SPECIFIC TIME

If you wish the system is automatically upgraded at a specified time select **At Time** and specify the upgrade time in 24 hour clock format (e.g. 03:00).



**Note:** It is the Operator responsibility to ensure the KMS machine and the KMS system are operational at the specified time.

## 8.4. WHAT HAPPENS DURING UPGRADE

Initiating the upgrade process starts a series of many actions. The release directory can be found in the Releases sub-directory of your KMS installation directory.

In this release directory you will say one or more release specific sub-directories, named by the release version (e.g. 3.2.6.051). Inside this release directory you will find the ReleaseInfo.txt file and the KMS release archive (e.g. KMS\_3.2.6.051.rar) containing the release files in compressed format.

1. In the release directory KMS will generate the upgrade.bat script, which will contain the actions to be executed, according to your system configuration..
2. All user processes will be terminated.
3. The execution of the upgrade.bat script is started.

The upgrade.bat script executes the following actions:

1. Set-up the command script environment variables.
2. Unload the files from the release archive.
3. Wait for a short time, to let the termination of the KMS system processes finalize.
4. KMS services will be stopped. These generated actions depend on your system runtime configuration, but may involve the stopping of the KMS application server and the KMS database server.
5. A full system backup will be taken, archived into preUpgradeBackup.rar.
6. The release files will be loaded into the database, which will automatically invoke a system reorganization, if the upgrade includes any changes to the database layout.
7. The release information will be loaded into the database.
8. The system will be restarted.

If an error is detected at any stage of the execution of the upgrade.bat, the database load will be aborted and the system will be restarted in its previous state.

After the upgrade process has completed, please verify on the System Upgrade page that your KMS system indicates it has the latest release available.

**Note:** It is important to check the upgrade.log file in the release directory. If an error occurred during the upgrade and this error was not clearly cause by some other unrelated process or action on your machine, please forward the upgrade.log to KMS support.

## 8.5. SEMI-AUTOMATED SYSTEM DISTRIBUTION

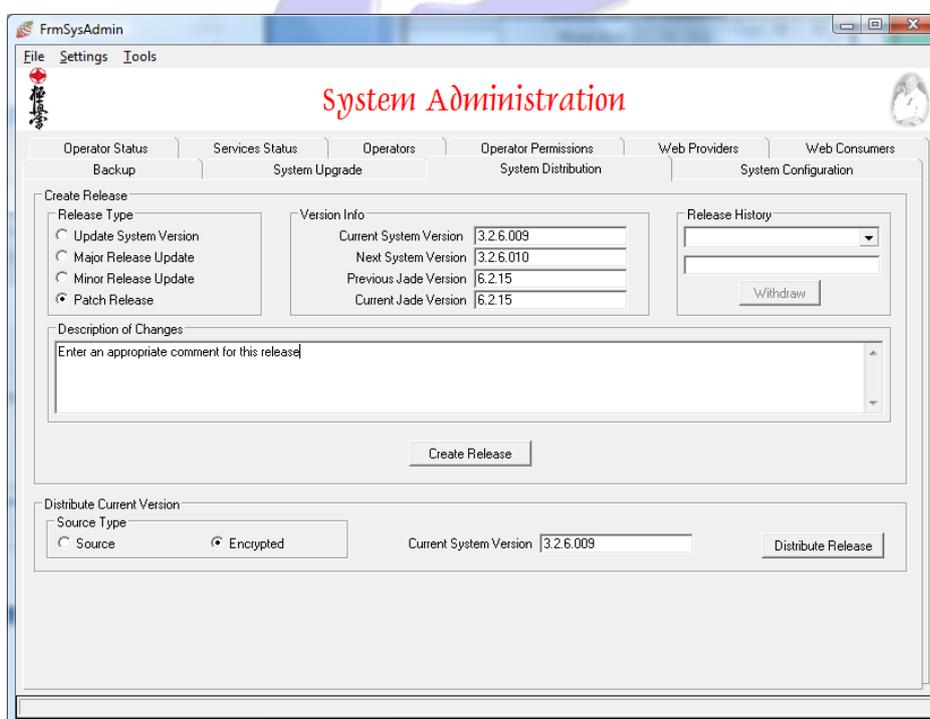
This section is only important to KMS developers with permission to distribute KMS releases.

The KMS release version number consists of 4 numbers, separated by a '.' character. The first number indicates the system version. System versions are only updated in case of a major system design change.

The second number is the Major release number. This release number is only updated if large changes have been made to the database layout.

The third number is the Minor release number. This number is updated when small database layout changes have been made.

The last number is the patch number. The patch number is updated when only minor coding changes have been made to fix a minor problem.



To generate a KMS release from your development system, select the type of release. The next KMS version number will be created and displayed. Provide a description of the changes in this release and click **Create Release**.

The installation files will be generated in a sub-directory of the Release directory in your KMS development system. A plain source and an encrypted distribution package is created. Only the encrypted version is to be released for production systems.

The plain source package can be used for internal testing and debugging.

To distribute a release for production, copy the release directory from your development system to the production server's release directory. On the production server open the System Administration Form, select the System Distribution tab, ensure Encrypted distribution is selected, that the Current System Version matches the intended distribution release version and click **Distribute Release**. The system will now be distributed across all KMS nodes in the system.

## 9. ADVANCED SYSTEM CONFIGURATION

### 9.1. KMS SYSTEM HIERARCHY

In the KMS hierarchy 4 possible types of nodes can exist.

The Presentation Client is a small set of binaries creating a Remote Display to one of the other 3 types of KMS nodes. As

The difference in the other 3 nodes is only in the functionality they represent. Each node is an individual KMS system working, with its own operators, virtually independent from each other.

#### 9.1.1. KMS HQ SERVER

The KMS Headquarters server is the top of a possible tree hierarchy. This server provides synchronization services to KMS Branch Servers and / or KMS Client Systems.

#### 9.1.2. KMS BRANCH SERVER

The KMS Branch Server is logically positioned between the KMS HQ server and KMS Client Systems. It provides synchronization services to KMS Client Systems.

#### 9.1.3. KMS CLIENT SYSTEM

A KMS Client System is an end-node. It synchronizes its data to the KMS HQ Server or KMS Branch Server.

#### 9.1.4. KMS PRESENTATION CLIENT

The KMS Presentation Client is a Remote Display facility to be able to remotely work on a KMS node. The KMS Presentation Client does not store data. Some utilities can be used from the local KMS Presentation Client computer, e.g. printer output or Barcode Scanner input.

### 9.2. KMS SYSTEM ARCHITECTURE INTRODUCTION

In the overall system architecture diagram you will notice the Presentation, Application and Database layers. These layers combined represent the internal data

flow.

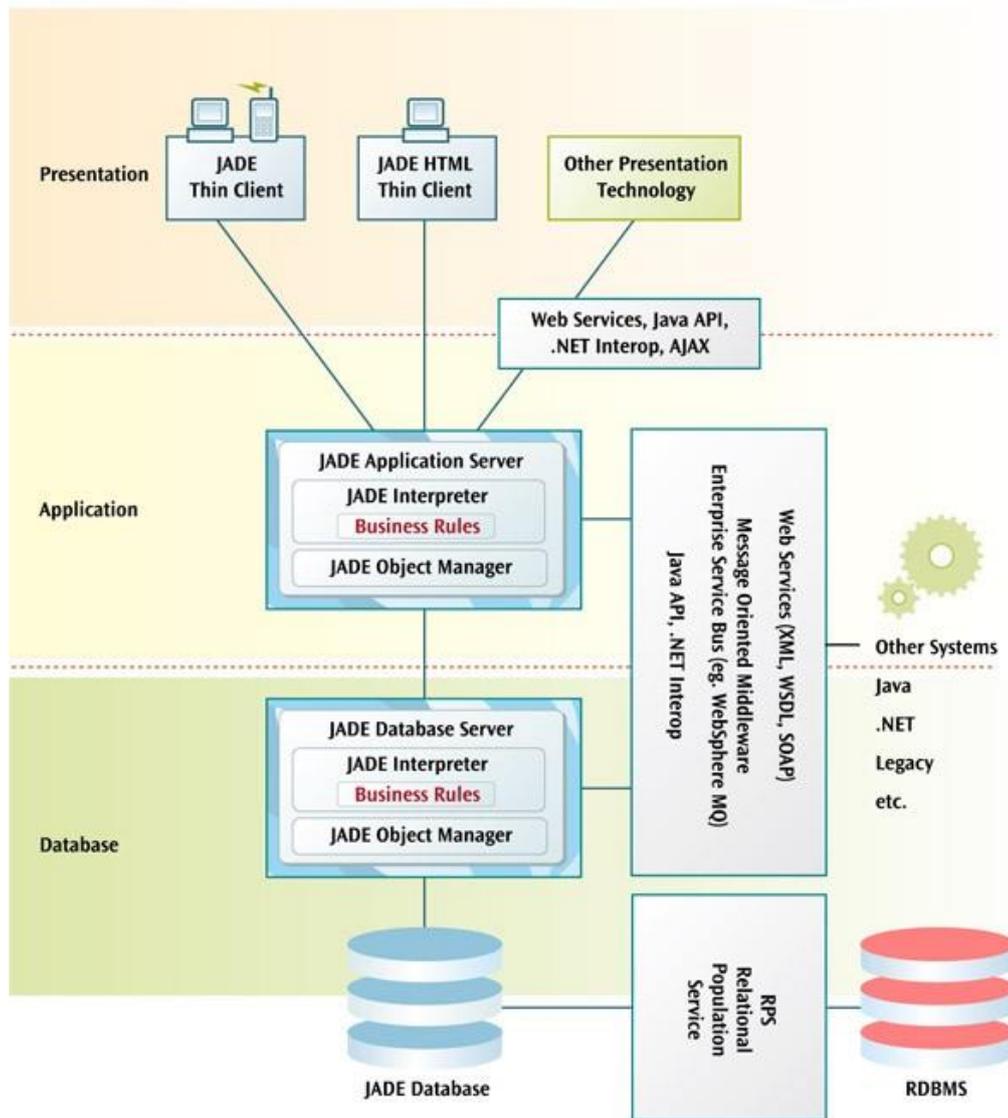


Diagram copyright of Jade Software Corporation Ltd. and used with permission.

The operator uses the Presentation layer to work with KMS, the operator actions are executed in the Application layer, and any data changes are stored in the Database layer.

The importance for a KMS administrator is that each of these layers can logically connect within the same KMS node (Operating System process) or they can connect through a network to separate KMS nodes.

### 9.2.1. KMS NODE TYPES

To support the flexibility in layer execution location there are 3 types of nodes. Primarily, each of these processes is designed to service one of the layers, but can be configured to include the functionality of the layer(s) below it own layer.

1. The Presentation Client.

The Presentation Client can include the Application layer, or it can include the Application layer and the Database layer.

2. The Application Server.

The Application layer can be configured to include the Database layer.

3. The Database Server.

## 9.2.2. CONFIGURATION EXAMPLES

Although many combinations are possible some configurations apply most to working with KMS. In general a Dojo Operator is interested in just that, operating a Dojo. The easiest and most practical configurations are where an operator does not need to be concerned about system administration or database administration. It is convenient to leave those to the HQ system, as much as possible.

### 9.2.2.1. KMS PRESENTATION CLIENT

The KMS Presentation Client runs the Presentation layer on the operator's workstation and connects to the Application layer or the HQ server. This is the easiest mode of operation, but it requires Internet connectivity. This operation mode is using KMS as an input and reporting workstation.

### 9.2.2.2. KMS CLIENT SYSTEM IN SINGLE USER MODE

The KMS Client System is configured by default to run in Single User mode. In this case the Presentation, Application and Database layers exist in the same node. This configuration requires occasional Internet connectivity to synchronize data with the HQ or Branch server. Processing capacity requirements are low. The KMS Client System must maintain its own Operator and Security set-up. This configuration is suitable to execute on a portable computer.

### 9.2.2.3. KMS APPLICATION SERVER IN SINGLE USER MODE

The Database and Application layers are combined in a single node. This node services the Dojo barcode scanner. As the scanner must be serviced at all times, the node is configured as a Windows service, operating in the background and automatically started when the computer is started. Dojo Operational User(s) use the Presentation layer in a separate node to connect to the Database/Application node. This configuration requires occasional Internet connectivity to synchronize data with the HQ or Branch server. Processing capacity requirements are low. The KMS Client System must maintain its own Operator and Security set-up.

This configuration is suitable to execute on a portable computer, a desktop computer with permanent network connectivity or a desktop computer where occasional network connectivity is available, e.g. a wireless connection to a portable device .

### 9.2.2.4. KMS BRANCH SERVER IN SINGLE USER MODE

The KMS Single User mode Branch Server is effectively the same as a KMS Client System. The difference is in internal KMS configuration and set-up. A branch server can synchronize both to the HQ server and KMS Client Systems. The Branch server configuration in Single User mode, running on a portable computer, can be used as an

intermediate system where no direct networking is available between a KMS Client System and its KMS Server System.

#### 9.2.2.5. KMS HQ SERVER OR MULTI-USER KMS BRANCH SERVER

The main KMS server runs the Database layer in one KMS node, configured as a Windows service. The Application layer runs in a KMS application server in a separate node, also configured as a Windows service. The Application layer communicates with the Database layer through a networking. The Presentation layer runs on the operator's workstation and connects to the Application layer through the Internet. Depending on operational capacity requirements this configuration would typically run on a server class machine or a desktop type machine with reasonable processing and memory capacity. To service remote users with acceptable performance a high speed Internet connection is required.

### 9.3. KMS CLIENT SYSTEM CONFIGURATION

A KMS Client System has been pre-configured at installation time. It needs no further fine tuning. You may want to configure the KMS Client to run as a Windows service, if you want it to be available whenever your computer is running. This is useful if you have a barcode reader installed, which is required to service Membership card scanning without the need for an operator to be logged in.

Setting up a service requires the user to have Administrator privileges on the computer.

In the KMS installation directory you will find the **KMS Application Server** shortcut.

Double click on this icon to start the application server. On Vista right-click on the shortcut and select "Run as Administrator".

If the application server momentarily flashes and then disappears, it will have been minimized to the System Tray. If this is the case double click on the system tray icon.

On the menu bar click **Options** and select **Run as Service**. On the **File** menu select **Exit**.

The Application Server has now been configured as a Windows server, but has not yet been started. The service will be started automatically each time you start your computer.

To manually control the starting and stopping of the Application Server, start the Application server by double clicking on the Application Server shortcut. Make sure you have Administrator privileges. On Vista right-click on the shortcut and select "Run as Administrator".

As the Application Server functionality has been configured to run as a service, the current copy of the Application Server only serves as an Administrative interface to the service.

The Application Server window will indicate that the service is stopped.

From the File menu select **Start Service**. The Application Server administrative interface can now be closed.

To access the KMS Client System locate the **KMS Presentation Client** shortcut in the KMS installation directory and double-click it. This client will use your computer's local networking to connect to the Application Server.

#### 9.4. KMS BRANCH SYSTEM CONFIGURATION

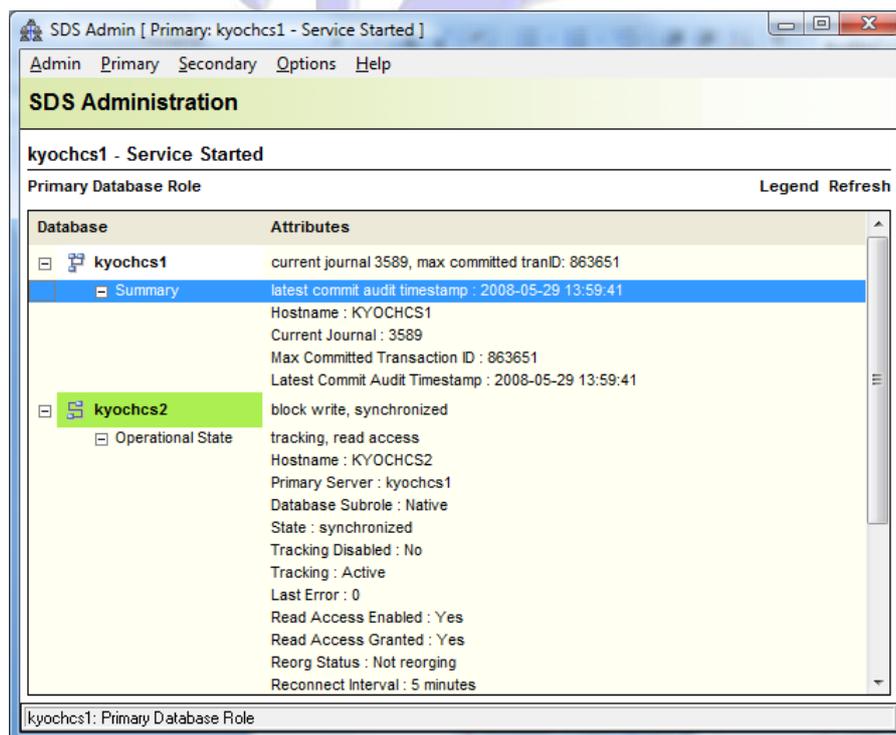
#### 9.5. KMS HQ SYSTEM CONFIGURATION

#### 9.6. CONFIGURE A DATABASE SERVER

#### 9.7. CONFIGURE AN APPLICATION SERVER

#### 9.8. CONFIGURE A PRESENTATION CLIENT

#### 9.9. SYNCHRONIZED DATABASE SERVICES



#### 9.10. SYSTEM INTEGRITY

#### 9.11. DISASTER RECOVERY